

## Chapter Five

### Aggregation and Consolidation of Data

#### Introduction

5.1 The analysis of FSI ratios is affected by the extent to which the data used for their calculation are consolidated. Thus, when constructing FSI ratios, attention needs to be paid to whether the data reported by entities are on a consolidated basis, and the method by which the data for the whole of the reporting population<sup>107</sup> are aggregated. This chapter explains what is meant by consolidation and aggregation, and sets out the various approaches. It also sets out the adjustments required to produce sector-level data.

5.2 While country circumstances and the analytical needs of users should determine the appropriate approach(es), this chapter identifies approaches for deposit-takers that are relevant from the standpoint of macroprudential analysis. In particular, there is a need for data that covers domestic-controlled deposit-takers with international operations on a cross-border consolidated basis. For each other sector, a preferred approach is outlined. The data implications of the *Guide*'s preferred approaches are explained in Chapter 11.

#### Defining terms

##### *What is meant by the term “aggregation” and “consolidation”?*

5.3 Aggregation refers to the summation of gross positions or flow data. Under an aggregation approach, the total positions and flows data for any group of reporting units equals the sum of the gross information for all individual units in the group.<sup>108</sup> So, the group

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<sup>107</sup> The term reporting population refers to all entities included in the sector information. The population can vary depending upon the institutional coverage of the sector.

<sup>108</sup> In some instances, aggregated data for a group of units, such as constitute an institutional sector, can be compiled using information reported by a sample of reporters, together with estimates for those units in the sector that do not report. Statistically, the more representative the sample is of the total population, the greater the likelihood of estimating reliable information for the nonreporters.

and sub-group totals equal the sum of their component elements and the data on claims and liabilities between the members of the group are preserved.

5.4 In contrast, consolidation refers to the elimination of positions and flows between units that are grouped together for statistical purposes. Consolidation can arise at various levels of grouping. For an individual institutional unit, all intra-unit positions and flows are eliminated. If related institutional units are grouped together to form one individual reporting entity—say, foreign branches of domestic banks are grouped with their parent bank—then all positions and flows within that reporting entity are eliminated from the reported information—that is, all flows and positions among the branches and with their parent are eliminated. If data for a group of reporting entities are consolidated, such as those in the same institutional sector (or sub-sector), then all intra-sector flows and positions are eliminated, leaving data on positions and flows with entities in other sectors (or sub-sectors).

5.5 Consolidation and aggregation can be combined for the purpose of compiling data series for use in calculating FSIs. For instance, reporting entities might provide consolidated data to the compiling agency, which then aggregates these data to create sector totals. On the other hand, the data provided might be consolidated rather than aggregated at the sector level. In this case, information on positions and flows among the entities covered in the reporting population need to be available to the compiling agency in order to be eliminated.

***What is meant by the terms “subsidiaries” and “associates”?***

5.6 Before discussing consolidated data in more detail, definitions of subsidiaries and associates are required as these terms are used throughout the rest of this chapter.

5.7 Subsidiaries are corporations over which a parent has established control. While recognizing that national practice on determining control can differ, control is defined in the *Guide* as the ability to determine general corporate policy by choosing (or removing) appropriate directors so as to obtain benefits from the activities of the corporation. Control is unambiguously established through ownership of more than half of the voting shares or otherwise controlling more than half of the shareholder voting power (including through

ownership of a second corporation that in turn has a majority of the voting shares). Control could also be established with ownership of less than half the voting shares, such as, but not confined to, through special legislation, decree, or regulation.

5.8 An associate is a corporation over which the investor has a significant degree of influence and which is not a subsidiary. Significant influence is usually assumed to arise when the investor owns between 10/20 per cent (depending on national practice) and 50 per cent of the equity/voting power of the entity. Typically, if the ownership stake reaches the threshold for classification as an associate but is expected to be of a temporary nature, the investment continues to be classified as a non-associate equity investment. However, for FSI purposes, if the equity investment has reached the level to be classified as an associate for two successive reporting periods, the implication is that the investment is not temporary.

5.9 Joint ventures are separate entities owned and operated by two or more parties for their mutual benefit. In the *Guide*, such entities are classified either as a subsidiary, or associate, or neither, depending upon the criteria set out in the previous two paragraphs. So if there are two or more investing parties each of which has a significant degree of influence over the joint venture, they should each classify the entity as an associate, consistent with the definition in the previous paragraph.

***What is meant by the terms “domestic control” and “foreign control”?***

5.10 When discussing reporting populations in more detail, definitions of domestic and foreign control are required.

5.11 Deposit-taking entities are defined in the *Guide* as foreign controlled if they are subsidiaries or branches of a foreign parent deposit-taker. Foreign controlled deposit-takers, in addition to supervision by the host supervisory authority, typically subject to supervision by their parent supervisory authority as recommended in the Basel Concordat of May 1983 (“Principles for the Supervision of Banks’ Foreign Establishments”). All other deposit-taking entities should be classified as domestically controlled. If a domestic deposit-taker is

controlled by a bank holding company in a foreign country, which is subject to banking supervision in that foreign economy, then it should be also classified as foreign controlled.<sup>109</sup>

5.12 For corporations in other sectors, they are foreign controlled if they are subsidiaries or branches of a foreign parent. All other resident corporations are to be classified as domestically controlled.

### **The aggregate resident-based approach**

5.13 In the *Guide*, under an *aggregate residence* approach, data are reported at the level of institutional units resident in the economy and aggregated by the compiling agency to provide totals of the sectors. This is the approach adopted in the *1993 SNA*, the sectoral balance sheets in the *Money and Financial Statistics Manual (MFSM)*, and related national-accounts based methodologies. The *Guide* recommends this approach for the compilation of FSI data for the household sector.

5.14 For corporations in an aggregate resident-based system, the institutional unit within which all transactions and positions are consolidated consists of a headquarters office and any branch offices resident in the economy.<sup>110</sup>

### **The consolidated-based approach**

5.15 In the *Guide*, the consolidated-based approach refers to the consolidation of data at both the group and sector-levels. It is the required approach for compiling data on deposit-takers and other corporate sectors for use in the calculation of FSIs. The text ahead discusses both consolidated group reporting and compiling consolidated sector-level data. The deposit-taking sector is used as an illustration, but the principles espoused are also relevant, and can be applied to, other corporate sectors. Table 5.1 supports the text.

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<sup>109</sup> In some rare instances, the parent might be considered as being located both in the domestic and a foreign economy. In such instances, the compiler is encouraged to classify such entities as domestically controlled.

<sup>110</sup> A separate financial unit within a larger conglomerate might be regarded as an institutional unit if, in its own right, it can own assets, incur liabilities, and engage in economic activities and in transactions with other entities.

### ***Consolidated group reporting***

5.16 *Consolidated group reporting* by a resident deposit-taker includes coverage not only of its own activities but also those of its (1) branches, and (2) subsidiaries, with any transactions and positions among these entities eliminated on consolidation. In essence, consolidation is based on the concept of control by a parent of other operating units. Such an approach is an essential element of banking supervision<sup>111</sup> and is adopted to preserve the integrity of capital in deposit-takers by eliminating double counting (gearing) of capital.<sup>112</sup> It is for this reason, and to also avoid the double counting of income and assets arising from the intra-group activity of deposit-takers—that is, activity that rests on the same pool of capital—the *Guide* recommends that for deposit-takers, data be compiled on a consolidated group basis.

### ***Cross-border consolidated data***

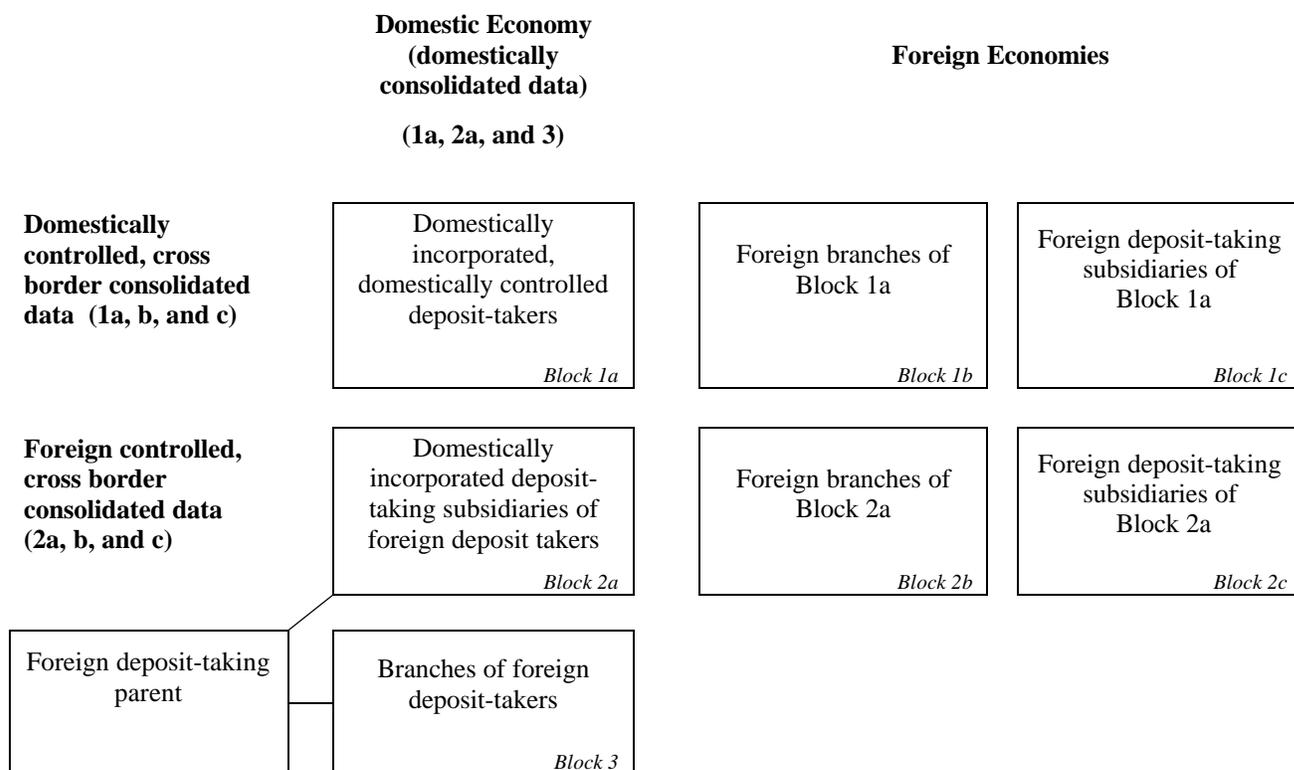
5.17 ***Cross-border consolidated*** data is represented by Blocks 1a, 1b, 1c, 2a, 2b, and 2c in Table 5.1. This approach consolidates flows and positions of the domestically incorporated deposit-taker with their branches (foreign and domestic) and deposit-taking subsidiaries (foreign and domestic)—described as solo (bank-only) supervision by bank supervisors. The cross-border consolidated approach focuses on domestically incorporated deposit-takers, and provides an indication of their financial soundness regardless of where the deposit-taking business is undertaken.

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<sup>111</sup> *Core Principles for Effective Banking Supervision*, BCBS, 1997, Number 20.

<sup>112</sup> *The New Basel Capital Accord, Consultative document*, January 2001, paragraph 1.

**Table 5.1: Schematic Presentation of Levels of Consolidation**



*Domestically controlled, cross-border consolidated data*

5.18 ***Domestically controlled, cross border consolidated data*** is represented by Blocks 1a, 1b, and 1c in the Table 5.1. This approach consolidates the data of domestically controlled and incorporated deposit-takers with their branches (domestic and foreign) and all deposit-taking subsidiaries (domestic and foreign). The institutional coverage of this approach in the *Guide* is consistent with that adopted by the Bank for International Settlements in compiling their consolidated International Banking Statistics.<sup>113</sup>

<sup>113</sup> The BIS data also requires reporting countries to capture data on banking offices located in the economy whose head offices are outside the reporting countries. This is a consequence of the size of the reporting country population and is intended to ensure as comprehensive coverage as possible for the IBS data. Once the country of the head office of such banking offices becomes a reporting country, the requirement on the host country disappears.

5.19 The focus on the health and soundness of domestically controlled deposit-takers arises because domestic authorities might ultimately be required to provide financial support. If domestically controlled deposit-takers have foreign branches and subsidiaries, they may well be among the larger deposit-takers in the domestic economy, so the potential direct financial risk of the failure of these deposit-takers could pose a systemic risk.

*Domestically controlled, cross-sector consolidated data*

5.20 Another option is to consolidate information from all branches and subsidiaries involved in financial intermediation that is, beyond just deposit-taking business with that of the domestically controlled and incorporated parent entity. In other words, consolidating information beyond that in 1 a, b, and c. This approach is termed the ***domestically controlled cross-sector consolidated*** approach in the *Guide*. Most supervisory data rely on this form of consolidation, as it is the approach used in the Basel Capital Accord (although insurance activity is typically excluded).

5.21 The cross-sector consolidated approach can highlight financial strengths and weaknesses of a group in the context of the full range of activities. However, there are some drawbacks. At the sector-level, the clarity of the institutional sector information is diminished because flows and positions of entities owned by, but outside the institutional sector of, the parent entity are included. Also, interpretation of these data might prove problematic, particularly in periods of merger and acquisition activity among units in different institutional sectors. In addition, relationships with other non-deposit-taking members of the group are not detected, such as connected lending between the deposit-takers and its non-deposit-taking affiliates.

*Foreign-controlled, cross-border consolidated data*

5.22 ***Foreign-controlled cross-border consolidated data*** is represented by Blocks 2a, 2b, and 2c in Table 5.1. This approach consolidates the data of branches (domestic and foreign) and all deposit-taking subsidiaries (domestic and foreign) with their domestically incorporated foreign-controlled parent. Depending on country circumstances, authorities may

consider it necessary to monitor the performance of foreign controlled deposit-takers and their deposit-taking parents by nationality.

5.23 As foreign subsidiaries are part of a larger deposit-taking group, their activities in the economy are affected by the policy decisions of their parent, while ultimately foreign banking supervisors are most concerned about the health and soundness of these institutions. To this extent, from the viewpoint of the host authorities, there is a significant prudential difference between foreign and domestic-controlled institutions. However, the host authorities should not be indifferent to the health and soundness of these institutions as their activities do impact on the domestic economy and financial risks arising from their subsidiaries and branches abroad could ultimately impact on the domestic economy.

5.24 The relevance of data on foreign subsidiaries in the economy will vary depending upon country circumstances, as will the interest in collecting information on the foreign branches and subsidiaries of such institutions.

*Domestically consolidated data*

5.25 The *Guide* defines ***domestically consolidated*** data as that which consolidates flows and positions of the resident deposit-taker with their branches and deposit-taking subsidiaries (if any) resident in the domestic economy. ***Domestically consolidated*** data is represented by Blocks 1a, 2a, and 3 in Table 5.1. The reported data includes flows and positions with all nonresidents and residents.

5.26 Data compiled using this approach are of analytical interest because deposit-takers resident in a domestic economy provide payment services, saving opportunities for the public, and allocate funds for viable investment projects. These institutions are also the agents through which central banks undertake monetary policy actions. In turn, resident deposit-takers are affected by domestic conditions.<sup>114</sup> So their actions both affect and are

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<sup>114</sup> For instance, the Basel Committee on Banking Supervision in its *Amendment to the Capital Accord to Incorporate Market Risks* (1996), page 3, noted the possibility of legal and procedural difficulties in carrying out the timely management of risks on a consolidated basis, and so while capital requirements for market risk

(continued)

affected by the domestic economy, and if resident banks fail to undertake, or sharply curtail, their financial intermediation activity there would be detrimental consequences for the domestic economy.

5.27 Also, domestically consolidated data provide a link to other macroeconomic data sets, such as the national accounts and monetary aggregates. Indeed, while the analytical development in this field is still young, monitoring the interconnections between such data and macroeconomic data series such as on the real economy, credit growth, fiscal positions, and international capital flows, as well as asset price bubbles, could support macroprudential analysis.<sup>115</sup>

5.28 While the net income/loss arising from foreign operations is captured, this approach does not identify the risks to domestic deposit-takers incurred through their foreign branches and subsidiaries.

### **Applying consolidated group reporting to the needs of FSI data**

5.29 As noted above, for compiling data for use in the calculation of FSIs, consolidated-group reporting is preferred for deposit-takers and other corporate sectors. However, as seen, there are several possibilities for the scope of the reporting population. Should only units located in the domestic economy be covered or also their foreign offices? Should coverage be distinguished by domestic and foreign control? For deposit-takers, should coverage encompass institutional units that do not meet the definition of deposit-takers but are subsidiaries of deposit-takers?

5.30 There is no simple answer to these questions but the *Guide* provides the following advice.

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apply on a worldwide consolidated basis, national authorities retain the right to monitor market risks of individual entities on a non- (worldwide) consolidated basis to ensure that significant imbalances within a group do not escape supervision.

<sup>115</sup> For instance, such a theme is explored in Chapter 3 in *Dangerous Markets, Managing in Financial Crises* (2003), Barton, Newell and Wilson; and by Crockett (2000).

### ***Deposit-takers***

5.31 First, the *Guide* requires the compilation of data covering ***domestic-controlled deposit-takers*** on a cross-border consolidated basis (defined in paragraph 5.18) for soundness analysis. The data need to cover domestic-controlled deposit-takers with international operations (foreign deposit-taking subsidiaries and branches). For economies that compile BIS consolidated banking data, the *Guide* supports identification of a FSI data set as consistent as possible in coverage with that of the BIS data, as analytical benefits could accrue from comparing the data sets.

5.32 Also, the *Guide* encourages the compilation of data covering all ***deposit-takers resident in the economy*** (domestic and foreign controlled) on a domestically consolidated basis (defined in paragraph 5.25)<sup>116</sup> to promote understanding of the relationship with the macroeconomy. Domestically consolidated data can (1) facilitate comparability with other macroeconomic data, (2) promote cross-country data comparability and (3) are consistent with the BIS's locational international banking statistics. Providing these data series through the development of sectoral accounts based on national accounts concepts would be an attractive approach and the *Guide* provides guidance on how this can be achieved. Such an approach might be a medium-term objective in those economies where sectoral accounts are still relatively underdeveloped.

5.33 ***Foreign-controlled deposit-takers*** can play a significant role in the domestic financial system. Whether to compile separate information or not on foreign controlled deposit-takers, and on which consolidation basis,<sup>117</sup> is a judgment the *Guide* leaves to the

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<sup>116</sup>The main differences between this concept and the preceding one are that it excludes foreign branches and subsidiaries of domestic banks but includes foreign-controlled branches and subsidiaries. If the domestic financial system contains only domestic-controlled deposit-takers with no international operations, and no foreign bank operations in the local financial system, the two concepts are the same.

<sup>117</sup> Cross-border consolidated data for foreign-controlled subsidiaries (defined in paragraph 5.22) would better complement the data on domestic-controlled deposit takers.

national authorities taking account of their own national situation.<sup>118</sup> Authorities should also exercise their discretion as to whether it is appropriate in their national situations to compile FSI data for foreign-controlled subsidiaries separately from foreign-controlled branches.

5.34 To undertake meaningful analysis it is important that the accounting rules and concepts are applied as consistently as possible across all data sets, regardless of the approach to consolidation. In disseminating any data, the institutional coverage and basis of consolidation should be made explicit

5.35 The IMF staff welcomes reactions to these proposals.

#### ***Other corporate sectors***

5.36 For FSIs covering the other financial and nonfinancial sectors a consolidated approach is preferred, so as to avoid double counting of assets, capital, and for nonfinancial corporations, earnings.

5.37 For ***other financial corporations***, the two FSIs currently listed—assets to total financial sector assets and assets to GDP—are intended to provide an indication of the importance of these institutions in the domestic financial system. The first of these two indicators could be compiled on either a cross-border consolidated basis or a domestically consolidated basis, while the second should be compiled on a domestically consolidated basis (for better consistency with GDP). It is important to note that the two currently listed FSIs above could be supplemented by additional FSIs for the sector. Specific proposals for FSIs for the insurance sector in particular are likely to be forthcoming in the near future to be compiled on a cross-border consolidated basis.

5.38 For ***nonfinancial corporations*** as with deposit-takers, data might be compiled on both domestically-controlled cross-border consolidated and domestic consolidated bases.

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<sup>118</sup> If the domestic financial system contains only foreign-controlled deposit-takers with no foreign deposit-taking subsidiaries or branches, then the foreign-controlled deposit-takers data set is the same as the domestically consolidated deposit-takers data set.

Data on the former basis would capture corporates' financial strength, and might for example be drawn from published corporate financial statements for the larger firms. Where such data are available and covers a substantial part of the sector its reporting is encouraged. As with any partial coverage of the sector, the potential "survivor bias" would need to be kept in mind.<sup>119</sup>

5.39 However, the *Guide* acknowledges that in many countries there is a relative lack of official, sector-level cross-border data and so accepts, in the first instance, the compilation of domestically consolidated data, based on national accounts methodology. Such an approach, through the link to other macroeconomic data sets, would also support the analysis of sectoral behavior in the context of macroeconomic developments, complementing macroprudential analysis. Providing these data series through the development of sectoral accounts would be an attractive approach. In disseminating any data, the institutional coverage and basis of consolidation should be made explicit, along with information on the accounting rules and concepts employed.

### **Specific issues arising from the consolidated approach**

5.40 While aggregation of data is a simple concept, consolidation is more complex, particularly when deciding when and how to consolidate the activities of a subsidiary with the parent and other affiliated entities when the subsidiary is less than 100 per cent owned.

5.41 The reason for consolidating activities of a subsidiary with a parent entity and other subsidiaries is that the parent entity has control over its activities and so both directly affects and is affected by the activities of that subsidiary. However, consolidating the activities of

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<sup>119</sup> Compilers using sampling techniques based on financial statements need to be aware of the potential "survivor bias." For instance, a sample of large listed nonfinancial corporates might include those with high debt-to-equity ratios particularly in a period of significant merger and acquisition activity. However, if some of these companies subsequently fail, perhaps due partly to the high gearing, fall out of the sample and are replaced by other companies, the time series consistency of debt-to-equity data could be notably affected. Thus, it is important to both provide information on how the data are constructed and have as comprehensive a coverage of entities as possible.

minority-owned subsidiaries with a parent entity could potentially result in double counting among reporting entities and compilers should remain alert to this possibility.

5.42 Further when consolidating the activities of less than 100 per cent owned subsidiaries, the issue arises as to how to account for the minority interest—the other owners. The approach taken in the *Guide* is that full consolidation should be undertaken. Minority interests should not be separately identified in earnings nor in the balance sheet as a liability item, but rather included as part of the capital and reserves of the consolidated entity. For deposit-takers, such full consolidation is consistent with that of the Basel Capital Accord for the measurement of Tier 1 capital, and reflects the focus on the total capital and reserves of the deposit-taker in the consolidated group.

5.43 For any unconsolidated subsidiaries<sup>120</sup> and associates, earnings and the value of the equity investment are to be recorded in the income statement and the capital and reserves, respectively, of the owner of the stake on a proportionate basis. That is, if the owner of the investment has a 50 per cent stake in an entity, half of the net earnings after tax should appear as income from the equity investment, and half of the value of the capital and reserves of the entity should be recorded as the value of the equity investment in the balance sheet of the owner. There should be similar treatment for any equity investment by an associate and unconsolidated subsidiary in a parent (reverse equity investment).

5.44 Commercial accounting and bank supervisory data tend to prefer the full consolidation approach for subsidiaries, and a prorated approach for profits and capital of associates. A version of the proportionate approach is that adopted in the *1993 SNA* for both foreign subsidiaries and associates in that proportionate shares of their earnings and capital are attributed to the parent, but not for domestic subsidiaries or associates.

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<sup>120</sup> For data on a domestically consolidated basis such subsidiaries are those in other non-deposit-taking domestic sectors and all foreign subsidiaries. On a cross-border consolidated basis such subsidiaries are those in other non-deposit-taking sectors (domestic and foreign).

### **Compiling consolidated sector-level data**

5.45 The compilation of consolidated sector-level data for use in FSIs is a two-step process. Given the consolidated group reporting approach adopted, (1) reported data are aggregated and, (2) further sector-level adjustments (consolidations) are made.

5.46 In compiling sector-level data it is important to appreciate that the range of deposit-takers whose activities are to be captured in the sector-level data (known in the *Guide* as the reporting population) will vary depending upon the consolidated group reporting approach adopted. In other words, each consolidated group reporting approach has its' own sector-level reporting population, which will differ from that for other consolidated group reporting approaches. For instance, if foreign branches and deposit-taking subsidiaries are included in the consolidated group data then the reporting population at the sector-level under this approach will be larger than if they were not. The idea that for FSI purposes more than one reporting population can be defined contrasts with other macro-economic datasets, say, the monetary and financial statistics, for which the reporting population is singly defined based on residence and the nature of activity undertaken.

5.47 Further, for FSI purposes, and again different in approach from other macroeconomic statistics, there is considered to be a need to make sector-level adjustments, so that:

- Intra-sector equity investments are deducted from the overall capital in the sector so that capital and reserves held within the sector are not double counted.
- Neither gains and losses from the intra-sector claims nor intra-sector transactions should affect the sector's net income or capital and reserves. That is, for deposit-takers, value is added or lost through their transactions and claims on entities that are outside, and not inside, the deposit-taking sector.

5.48 A more detailed specification of the sector-level adjustments required is provided in the text annex ahead

5.49 Nonetheless, sector-level data for FSI purposes should include any intra-sector positions in debt and financial derivatives on a gross basis; that is, such positions among groups should not be eliminated. This approach allows the inter-relationships among groups in the sector, and hence potential contagion risks, to be identified. This is viewed as particularly relevant for the deposit-taking sector. This is because asset-based FSIs are intended primarily to identify the gross risks faced by the deposit-taking sector, and these risks encompass claims on each other. For instance, in order to discover whether certain types of deposit-takers concentrate on lending in, say, foreign currency—potentially excluding a portion of such lending could thus be misleading. The same reasoning applies to the other asset-based FSIs. In contrast, in the *MFSM* in its other depository corporations survey flows and positions among the reporting population are eliminated.<sup>121</sup>

5.50 More generally, the *Guide* encourages separate identification and monitoring of gross information on interbank positions.

### **Text Annex: Detailed specification of the sector-level adjustments required<sup>122</sup>**

#### ***Deposit-takers***

5.51 Table 5.2 presents data for three deposit-takers (1, 2, and 3) resident in the domestic economy. The income and expense and balance sheet statement data of each deposit-taker are presented in the first three columns, and the sector-level data in column 4. Deposit-taker 3 is an associate of deposit-taker 2. The table illustrates the sector-level adjustments required to aggregated individual deposit-taker data, which are explained in the rest of this annex. Because of the focus on adjustments not all lines in the full statement of accounts (as set out in Table 4.1) are separately identified. The text notes the adjustments that are also required for the other corporate sectors.

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<sup>121</sup> Box 11.1 sets out how monetary and financial statistics data can be used in the calculation of the agreed indicators.

<sup>122</sup> It is likely that the authorities will need to collect additional data series beyond their existing basic data sources to make the sector-level adjustments, and this might involve resource costs. Chapter 11 provides some indication of the series required.

**Table 5.2: Sector-Wide Data: Consolidating Income and Expense Items**

	Deposit Taker 1	Deposit Taker 2	Deposit Taker 3	Sector Wide Data
<b>Income and Expense</b>				
Gross Interest Income	600	1300	400	<b>2300</b>
less provisions for accrued interest on nonperforming assets	0	150	0	<b>130</b>
<i>of which: on loans to other deposit-takers</i>	0	20	0	<b>eliminated</b>
Interest income	600	1150	400	<b>2170</b>
Interest Expense	300	500	200	<b>1000</b>
Net Interest Income	300	650	200	<b>1170</b>
Noninterest Income	250	700	400	<b>1213.8</b>
Fees and commissions receivables	110	300	200	<b>580</b>
<i>of which: from other deposit-takers<sup>1/</sup></i>	0	30	0	<b>Eliminated</b>
Gains/losses on financial instruments	50	100	100	<b>245</b>
<i>of which: on deposit-takers equities</i>	5	0	0	<b>Eliminated</b>
Other Income	90	300	100	<b>388.8</b>
<i>of which: dividends from deposit-takers</i>	7	0	0	<b>Eliminated</b>
<i>prorated share of earnings</i>	0	79.2	0	<b>Eliminated</b>
<i>other income receivable from other deposit-takers</i>	0	0	15	<b>Eliminated</b>
Gross Income	550	1350	600	<b>2383.8</b>
Operating Expenses	500	600	150	<b>1215</b>
<i>of which: fees and commissions payable to other deposit-takers</i>	15	0	15	<b>Eliminated</b>
<i>other expenses payable to other deposit-takers</i>	0	5	0	<b>Eliminated</b>
Provisions (net)	50	80	10	<b>132</b>
<i>of which: provisions on loans to deposit-takers</i>	0	8	0	<b>Eliminated</b>
Net Income (before extraordinary items and taxes)	0	670	440	<b>1036.8</b>
Income tax	0	272	176	<b>448</b>
Net Income after tax	0	398	264	<b>588.8</b>
Dividends payable	0	300	140	<b>391</b>
<i>of which: to other deposit-takers</i>	0	0	49	<b>Eliminated</b>
Retained Earnings	0	98	124	<b>197.8</b>

<sup>1/</sup> Deposit takers covered are only those in the reporting population

**Sector-Wide Data: Consolidating Balance Sheet Items**

	Deposit Taker 1	Deposit Taker 2	Deposit Taker 3	<b>Sector Wide Data</b>
<b>Balance Sheet</b>				
Nonfinancial Assets	500	500	300	<b>1300</b>
Financial Assets	<b>11250</b>	<b>17800</b>	<b>7300</b>	<b>36158</b>
Loans (excluding specific provisions)	8850	14100	5500	<b>28458</b>
(i) Gross Loans	9250	14400	5600	<b>29250</b>
(ii) Specific provisions	<b>400</b>	300	100	<b>792</b>
<i>of which: provisions on loans to deposit-takers</i>	0	8	0	<i>eliminated</i>
Shares and Other Equity	100	300	200	<b>400</b>
<i>of which: investment in deposit-taking associates</i>	0	180	0	<i>eliminated</i>
<i>investment in other deposit-takers</i>	20	0	0	<i>eliminated</i>
Other financial assets	2300	3400	1600	<b>7300</b>
Total assets	<b>11750</b>	18300	7600	<b>37458</b>
Liabilities	11000	<b>16700</b>	<b>7000</b>	<b>34700</b>
Capital and Reserves	750	1600	600	<b>2758</b>
Total liabilities and capital	11750	18300	7600	37458

5.52 The relevance of each adjustment will depend upon national circumstances. Some adjustments such as for fees and commissions might be generally applicable whereas others, such as for provisions on loans to other deposit-takers may not.

*Adjustments in the Income Statement*

5.53 For the purposes of compiling data for use in calculating FSIs, up to seven adjustments are required to the income statement in order to eliminate intra-sector transactions and gains and losses from the intra-sector claims. Each of the adjustments is described ahead:

- provisions for accrued interest on nonperforming loans to other deposit-takers;
- fees and commissions receivable and payable from other deposit-takers in the reporting population;

- dividends receivable and payable from other deposit-takers in the reporting population;
- the investing deposit-taker's prorated share of the earnings of associate deposit-takers also in the reporting population;
- other income receivable and payable from other deposit-takers in the reporting population;
- gains and losses on deposit-takers' ownership of equities of other deposit-takers in the reporting population;
- and provisions on loans to other deposit-takers in the reporting population.

5.54 A notable exclusion from the list above is data on intra-deposit-takers' interest income and expense. These data are presented gross because they sum to zero in the net interest line.

#### Eliminating provisions for accrued interest on intra-sectoral loans

5.55 The *Guide* recommends that once a loan is classified as nonperforming, interest cease to accrue. If such a loan is to another deposit-taker in the reporting population an asymmetry of approach will arise in that the debtor deposit-taker should continue to accrue interest, but the creditor deposit-taker should not. So an adjustment is required to eliminate this asymmetry.

5.56 In Table 5.2, of the 1,300 of gross interest income of deposit-taker 2, there are provisions of 150 for accrued interest on nonperforming loans, of which 20 relates to an intra-sectoral loan. In calculating the sector-wide total (column 4), 20 of the provision is eliminated so that the sector-wide net interest income data are greater than the aggregated data for deposit-takers 1, 2, and 3.

5.57 A similar adjustment is still required even if interest income is reported as a single figure excluding accrued interest on nonperforming loans. Also, if the debtor deposit-taker subsequently paid interest, which the *Guide* recommends is recorded in the provisions line, this payment would need to be eliminated in calculating sector-wide data.

Eliminating intra-deposit-takers' fees and commissions

5.58 While intra-sector fees and commissions receivable and payable do not affect sector-level net income—since they net to zero—four FSIs use either the data series “gross income” or “noninterest expense.” So, for these gross data series, the *Guide* recommends the exclusion of intra-sector fees and commissions data.

5.59 In Table 5.2, of the 300 fees and commissions receivable by deposit-taker 2's, 30 is receivable from (payable by) the other two deposit-takers in the reporting population. These amounts are intra-sector transactions, representing neither income from or expenses to other sectors. So in calculating the sector-wide total (column 4), 30 is eliminated from fees and commissions receivable and payable.

Eliminating intra-deposit-takers' dividends receivable and payable

5.60 For dividends receivable and payable, these amounts net to zero in the sector-wide retained earnings line. However, as with the adjustments required for fees and commissions, including these amounts gross affects specific series that are used to calculate FSIs. Most notably, the inclusion of dividends receivable from other deposit-takers in the reporting population in other income would double count sector-level gross and net income, because the income is already reflected as part of gross and net income of the deposit-taker paying the dividend. So, the *Guide* recommends that intra-sector dividends receivable and payable are excluded from the gross series in which they are included: other income (dividends receivable) and dividends payable.

5.61 In Table 5.2, of the 90 of other income of deposit-taker 1, 7 is dividends receivable from deposit-taker 3. This intra-sector transaction is eliminated by subtracting 7 from sector-level non-interest income and dividends payable.

5.62 The same sector-level adjustments are required for intra-sectoral dividends payable and receivable in the nonfinancial corporate sector.

Eliminating an investing deposit-takers' prorated share of an associate's earnings

5.63 For associate (and reverse) investments, the investor recognizes as revenue (expense) each period its proportionate share of the net income (loss) of the associate. For the same reason as described for dividends payable and receivable—to eliminate double counting of income—the value of the earnings of a deposit-taker that are attributable to an investing deposit-taker also in the reporting population are eliminated

5.64 In Table 5.2, of the 300 of other income of deposit-taker 2, 79.2 (30 percent share) is the proportionate share of the net income of deposit-taker 3 (the associate). Of this amount, 42 is the proportionate share of dividends payable and 37.2 is the proportionate share of retained earnings. These intra-sector transactions are eliminated by subtracting 79.2 from sector-level noninterest income (deposit-taker 2's proportionate share), 42 for dividends payable (deposit-taker 3's amount payable), and so reducing retained earnings by 37.2.

5.65 The same sector-level adjustments are required for intra-sectoral associate (and reverse investment) earnings in the nonfinancial corporate sector.

Eliminating intra-deposit-takers' other income

5.66 Other income includes all noninterest income other than trading gains and losses, less those items otherwise identified and for which separate adjustments are made—fees and commissions, dividends receivable, and the prorated share of retained earnings. As four FSIs use either the data series “gross income” or “noninterest expense,” for these gross data series, the *Guide* recommends the exclusion of intra-sector other income data.

5.67 Other income receivable and payable among deposit-takers does not affect sector-level net income—since these lines net to zero—and so two adjustments are made, one in income and the other in expenses. An exception is if the income received is a gain/loss on the sale of a fixed asset. In such instances, the gain or loss is deducted from “other income” but there is no adjustment in expenses because such income does not represent an expense of the purchaser. The same sector-level approach is required for the nonfinancial corporate sector.

5.68 In Table 5.2, of the 100 of other income receivable by deposit-taker 3's, 15 is receivable from (payable by) deposit-taker 2. This amount is an intra-sector transaction, representing neither income from or expenses to other sectors. Of this amount 10 is a gain on the sale of a fixed asset to another deposit-taker. So in calculating the sector-wide total (column 4), 15 is eliminated from other income receivable and 5 from operating expenses payable, so reducing sector-wide retained earnings by 10.

Eliminating gains and losses on ownership of other deposit-takers' shares and other equity

5.69 Gains and losses on deposit-takers' ownership of other deposit-takers' shares and other equity (other than equity investments related to associates and subsidiaries, and reverse investments) should be eliminated from the sector-level gains and losses on financial instruments data series so that gains and losses from the intra-sector claims do not impact on sector-level income. Unlike debt securities, in the *Guide* equity assets and liabilities of deposit-takers are measured differently on the two sides of the balance sheet. While the deposit-taking owner records gains and losses on the shares and other equity assets based on market prices, there is no corresponding change in the issuer's books. So in the absence of excluding gains and losses on holdings of the shares and other equity of other deposit-takers in the reporting population, there would be an impact on sector-level income.

5.70 Further, at the sector-level, the *Guide* considers that transactions in deposit-takers shares and other equity (both intra-sector and inter-sector) are equity financing transactions—transactions that can increase or decrease capital without having to go through the income account. So at the sector level, it is immaterial which deposit-taker has sold or purchased shares and other equity vis-à-vis the outside sector—whether the issuer of the equity is operating in the primary market or a deposit-taker is operating in the secondary market: all sales and purchases reflect exchanges of equity for capital resources. The adjustments required at the sector level are further developed below in the discussion on the balance sheet adjustment for intra-sector holdings of shares and other equity.

5.71 In Table 5.2, of the 50 of gains on financial instruments of deposit-taker 1, 5 is a gain arising from the ownership of shares and other equity of deposit-taker 3. At the sector-level this gain of 5 is eliminated from noninterest income, so reducing retained earnings by 5.

5.72 When recorded in other income at the entity level, the same sector-level adjustments are required for the gains and losses on intra-sectoral shares and other equity holdings in the nonfinancial corporate sector.

#### Elimination of specific provisions on loans to other deposit-takers

5.73 Specific provisions on loans to other deposit-takers in the reporting population need to be eliminated to avoid double recording of losses. A deposit-taker will likely make a provision on its loans to another deposit-taker if the net income and capital of the borrower should deteriorate badly—because of some adverse event. The provision decreases the lending deposit-taker's net income along with the decrease in the borrower deposit-takers' net income and capital that resulted in the provision. At the sector level, the impact of the adverse event would be counted twice unless the specific provisions on intra-deposit-takers loans are eliminated.

5.74 Also, an asymmetry arises if specific provisions reduce the net amount of loans on the lender's books but a similar reduction in the amount of loan liabilities is not made in the borrower's books.

5.75 In Table 5.2, of 80 in provisions recorded by deposit-taker 2, 8 are provisions on loans to deposit-taker 1. Deposit-taker 1's performance has deteriorated as reflected in its net income of zero during the period. At the sector-level, the provision of 8 is eliminated from provisions, so increasing retained earnings by 8.

#### Calculating sector-wide retained earnings

5.76 In Table 5.2, sector-wide retained earnings (197.8) do not equal the sum of the retained earnings data of deposit-takers 1, 2, and 3 (222). How is the difference reconciled?

5.77 One difference is the deposit-taker 2's prorated share of the retained earnings of deposit-taker 3 that is eliminated (37.2) to avoid double counting of retained earnings at the sector-level. A second difference arises from adjustments made to gross income data that are not reversed elsewhere in the account. These adjustments are the provisions for accrued interest on loans to other deposit-takers in the reporting population, the gains and losses on other deposit-takers equity, the gains and losses on the sale of fixed assets to other deposit-takers, and the provisions on loans to other deposit-takers.

5.78 So, sector-wide retained earnings (197.8) equals the aggregate retained earnings of deposit-takers 1, 2, and 3 (222) less deposit-taker 2's prorated share of the retained earnings of deposit-taker 3 (37.2) less deposit-taker 1's gain on equity (5), less deposit-taker 3's gain on the sale of fixed assets of (10), plus deposit-takers 2's provision for accrued interest (20) and for loan losses (8).

#### *Adjustments in the Balance Sheet*

5.79 For the purposes of compiling data for use in calculating FSIs, three adjustments are required to the sector-level balance sheet data primarily to avoid the double counting (double leveraging) of capital at the sector-level. Each of the adjustments is described ahead:

- investments in associates resident in the economy;
- market value of shares and other equity investments in other deposit-takers in the reporting population;
- and specific provisions on loans to other deposit-takers.

#### Eliminating the investors' prorated share of associates' capital and reserves

5.80 In all measurement systems, a distinction is made when an equity investment reaches a certain level at which the investor will achieve significant influence over management decisions, and hence over the use of the capital resources of the entity. As noted above (paragraph 5.8), depending on national practice, this level may be 10 per cent or 20 per cent at which this distinction is made. Consistent with such distinctions, associate investments (and reverse equity investments) by deposit-takers in other deposit-takers in the reporting

population are valued on the basis of the investor's proportion share of the associates' capital and reserves. If the associates' capital and reserves and the investor's proportionate share of that capital are both included in sector-wide capital and reserves, there will be double counting of capital at the sector-level. To avoid this double counting, the value of the intra-sector associate (and reverse) investment is eliminated from assets and capital and reserves.

5.81 In Table 5.2, of 300 of shares and other equity assets of deposit-taker 2, 180 is an investment in deposit-taker 3, its associate. This investment is valued according to its prorated share in the capital and reserves of the associate<sup>123</sup> At the sector-level, 180 is eliminated from assets and from capital and reserves.

5.82 The same sector-level adjustments are required for intra-sectoral associate (and reverse) investments in the other financial corporations and nonfinancial corporations sectors.

Eliminating the market value of the shares and other equity investments in other deposit-takers in the reporting population

5.83 The market value of the shares and other equity investments of one deposit-taker in another deposit-taker in the reporting population (outside of those investments associated with associates and subsidiaries) should be eliminated from the sector-level data to avoid double counting (double leveraging) of capital with the counter-adjustment being a reduction in sector-level assets.

5.84 If a deposit-taker holds the shares and other equity throughout the period and it increases (decreases) in value, this increase (decrease) should be deducted from the sector-level earnings (as described in paragraphs 5.69 - 5 71) with the end-period market value of the shares and other equity deducted from sector-level assets and capital and reserves. The increase in value does not represent additional capital resources from outside the sector (see

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<sup>123</sup> This procedure also applies to the valuation of equity investment in unconsolidated subsidiaries. Any reverse equity investment in a parent by an associate or unconsolidated subsidiary should be similarly recorded in the associate/subsidiary's balance sheet.

also paragraph 5.70). If a deposit-taker sells to a second deposit-taker the shares and other equity of a third deposit-taker in the reporting population, any gains and losses made by the first deposit-taker since the end of the previous period should be deducted from sector-wide income. Such a sale has no impact on capital and reserves as the equity “merely” switches ownership within the sector, with the new deposit-taking owner deducting any subsequent gains and losses from sector-wide income, and the market value of the equity from sector-level assets and capital and reserves. Appendix IV provides numerical examples of how to record these transactions and positions.

5.85 In Table 5.2, deposit-taker 1 has a shares and other equity investment in deposit-taker 3 that has a market value of 20. This amount is eliminated from the sector-level data by deducting it from assets and from capital and reserves.

5.86 The same sector-level adjustments are required for intra-sectoral shares and other equity investments in the other financial corporations and nonfinancial corporations sectors.

#### Specific provisions on loans to other deposit-takers

5.87 Just as discussed in the adjustments to income, adjustments to the balance sheet are required for specific provisions on loans to other deposit-takers to avoid asymmetric recording of losses—the debtor deposit-taker records the full value of the loan outstanding while the creditor deposit-taker reduces the value of the loan by the amount of the provision.<sup>124</sup> In Table 5.2, at the sector-level, the provision of 8 recorded under loan assets of deposit-taker 2 is eliminated so decreasing specific provisions and increasing capital and reserves.

5.88 Also, while not shown in the table, the outstanding amount of any provisions for accrued interest on nonperforming loans (or other assets) to other deposit-takers in the

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<sup>124</sup> For the same reason, a similar adjustment need be made if rather than making a specific provision, the creditor deposit-taker had written off some of the value of the loan.

reporting population needs be added to the value of loans outstanding to avoid asymmetric recording—the debtor deposit-taker is accruing interest but the creditor is not.

#### Calculating sector-wide capital and reserves

5.89 In Table 5.2, sector-wide capital and reserves (2758) do not equal the sum of the capital and reserves data of deposit-takers 1, 2, and 3 (2950). How is the difference reconciled?

5.90 The difference is explained by the three adjustments above, each of which affects sector-wide capital and reserves. So sector-wide capital and reserves (2758) equals the aggregate capital and reserves data of deposit-takers 1, 2, and 3 (2950) less the equity investments in associates (180) and in other deposit-takers in the reporting population (20) plus the specific provisions (8). While not shown in the table, the adjustment to the value of loans for provisions on accrued interest on nonperforming loans (or other assets) to other deposit-takers in the reporting population, discussed in paragraph 5.88, needs also to be added to sector-wide capital and reserves (narrow capital and reserves).

#### *Other*

#### Goodwill

5.91 While any adjustments should be undertaken at the individual entity rather than sector-level, the treatment of goodwill when a deposit-taker buys an associate or subsidiary stake (or adds to it, or there is a reverse investment) in another deposit-taker in the reporting population deserves mention.

5.92 If the investor pays above the value of the capital and reserves of the associate or subsidiary, then the difference is regarded as purchased goodwill. The value of this goodwill should be eliminated from the investors' capital and reserves (and nonfinancial assets), as it reduces capital available to absorb losses; that is, cash falls by more than the value of the equity investment acquired. Similarly if a deposit-taker sells a stake in a deposit-taking associate or subsidiary (or there is a disinvestment of a reverse investment) at a value greater

than the proportionate value of the capital and reserves, the difference should be added to selling deposit-takers' capital and reserves, so ensuring symmetric treatment with that for goodwill. Income is unaffected by such transactions. The same principles apply for the purchase and sale of other entities by deposit-takers, and for the sale and purchase of subsidiaries and associates by other corporate sectors.

## **Box 5.1**

### **Interbank flows and positions**

Within any financial system there are likely to be financial relationships among deposit-takers. These can be significant, and take the form of interbank borrowing and lending, and ownership of equity and other traded instruments issued by deposit-takers. How these various inter-relationships are captured in the data used for calculating FSIs is important to understanding the data. This box explains how the *Guide*'s various recommendations regarding the classification of interbank flows and positions in the financial statement at the sector-level fit together. Chapter 11 sets out the information required to meet these recommendations.

#### **Flows and positions between deposit-takers in the same group<sup>1</sup>**

In the consolidated approach all intra-group flows and positions—including capital and reserves—among deposit-takers in the reporting population are eliminated from the sector information.

#### **Flows and positions with other deposit-takers**

For income and expense, and capital and reserves, the approach taken is essentially to exclude from the sector data interbank flows and positions with other deposit-takers in the reporting population.<sup>2</sup> The objective is to avoid grossing up the flow of income into, and the measure of total capital in, the sector—that is to overstate its financial health and capital strength. In the income and expense statement, non-interest income is eliminated through netting—including dividends both in the noninterest income and dividend payable lines. Interbank interest income and expense are presented gross, and, in concept, will sum to zero in the net interest income line. Adjustments are made for any provisions on nonperforming

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<sup>1</sup> A group in this context is a parent deposit-taker, its deposit-taking branches, and deposit-taking subsidiaries.

<sup>2</sup> The term reporting population includes all deposit-takers included in the sector information. It varies depending upon the institutional coverage of the sector.

claims on other deposit-takers in the reporting population. (In the text annex to this chapter a numerical example of the sector-level adjustments required is set out.)

Similarly, liquid assets exclude nontraded interbank claims, so avoiding increasing the measure of liquidity at the sector level through interbank activity. Such claims are not “external” sources of liquidity for the sector, nor realizable for cash in the market.

To monitor risk exposures and the potential for contagion, for gross assets (and liabilities), the *Guide* recommends as a general principle the inclusion in the sector data of gross interbank claims and liabilities (as with interest flows). This is because asset-based FSIs are intended primarily to identify the gross risks faced by the deposit-taking sector, and these risks encompass claims on each other. For instance, in order to discover whether certain types of deposit-takers concentrate on lending in, say, foreign currency—potentially excluding a portion of such lending could thus be misleading. The same reasoning applies to the other asset-based FSIs.

More generally, the *Guide* encourages separate identification and monitoring of gross information on interbank positions.

To avoid asymmetric recording by debtor and creditor deposit-takers, adjustments are made to the data for specific provisions on loans (or other assets) on other deposit-takers in the reporting population.

### ***Equity investments***

The treatment of equity investments requires special mention.

In all measurement systems, a distinction is made when an equity investment reaches a certain level at which the investor will achieve significant influence over management decisions, and hence over the use of the capital resources of the entity. As noted elsewhere in this chapter (paragraph 5.8), depending on national practice, this level may be 10 per cent or 20 per cent at which this distinction is made. Consistent with such distinctions, in the *Guide* the value of the investor’s equity investment in associates and unconsolidated subsidiaries is

to be recorded in the investor's balance sheet, and earnings are to be attributed to the investor's income statement (noninterest income), on the basis of the investor's proportionate share in the capital and reserves of the associate and unconsolidated subsidiary. Any reverse equity investment in a parent by an associate or unconsolidated subsidiary should be similarly recorded in the associate/subsidiary's balance sheet and income statement.

For sector-level data, when both the associate and parent are in the reporting population:

- The value of the earnings attributable to the investing deposit-taker should be deducted from noninterest (other) income—so the same net income is not double counted. Also, to ensure that dividends payable and retained earnings for the sector are not overstated, the investing deposit-taker's share of the dividends payable and of retained earnings (which together should equal the entry in noninterest income) is to be deducted from these items.
- The proportionate share of the investing deposit-taker in the capital and reserves of the associate (parent in the instance of reverse investment) should be excluded from gross assets and from capital and reserves in the balance sheet for the sector.

Further if one deposit-taker buys an associate or subsidiary stake (or adds to it) in another entity (or there is a reverse investment), including deposit-takers, and pays above the proportionate value of the capital and reserves of the entity—that is, assets provided are greater in value than those received—the difference is regarded as purchased goodwill.<sup>3</sup> The reporter should deduct the value of goodwill from retained earnings within capital and reserves. Similarly if a deposit-taker sells a stake in an associate or subsidiary (or there is a disinvestment of a reverse investment) at a value greater than the proportionate value of the capital and reserves—that is, assets received are greater in value than those provided—the difference should be added to retained earnings. If own equity is used to purchase a stake in an associate or subsidiary, then the value of assets, and capital and reserves of the purchaser increases by the value of proportionate share of the capital and reserves of the associate/subsidiary. Appendix IV provides two numerical examples of the treatment of goodwill.

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<sup>3</sup> That is, cash will fall by more than the value of the equity stake, reducing capital and reserves.

For sector-level data, the market value of other equity investments of deposit-takers in deposit-takers in the reporting population should be excluded from gross assets and from capital and reserves (narrow capital and reserves). Also, gains and losses realized or unrealized on investments in equity in other deposit-takers in the reporting population should be excluded from the income and expense statement.

## Box 5.2

### Sectoral flows and positions

Within any financial system there are likely to be financial relationships among institutions in the same sector. This box explains how the *Guide's* various recommendations regarding the classification of intra-sectoral flows and positions in the financial statement of other financial sector and the nonfinancial sector in their financial statement fit together. Chapter 11 sets out the information required to meet these recommendations.

#### Other financial corporations

Compared with the deposit-taking and nonfinancial sectors, there is only a short list of FSIs for the other financial corporations. Thus, the sectoral information set out in Chapter 4 is more limited, and hence so are the sector-level adjustments.

In the domestic consolidated approach all intra-group flows and positions<sup>1</sup>—including capital and reserves—among resident other financial corporations in the reporting population<sup>2</sup> are eliminated from the sector information. This involves excluding any equity holdings from assets and capital and reserves, and also excluding all intra-group claims and liabilities.

Also, at the sector level all equity holdings in other other financial corporations in the reporting population are eliminated from assets and capital and reserves to avoid double leveraging of capital at the sector level.

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<sup>1</sup> A group in this context is a parent other financial corporation, its other financial corporation branches, and other financial corporation subsidiaries.

<sup>2</sup> The term reporting population includes all other resident financial corporations (or resident nonfinancial corporations depending on the sectoral data being compiled).

## **Nonfinancial corporations**

In the domestic consolidated approach, as with deposit-takers and other financial corporations, all intra-group flows and positions<sup>3</sup>—including capital and reserves—among nonfinancial corporations in the reporting population are eliminated from the sector information. This involves excluding any equity holdings from assets and capital and reserves, all intra-group claims and liabilities, and all intra-group income and expense items.

Also, at the sector level the balance sheet value of all equity holdings in other nonfinancial corporations in the reporting population are eliminated for assets, and (narrow) capital and reserves to avoid double leveraging of capital at the sector-level. As with the deposit-taking sector, associate investments (and reverse equity investments) by nonfinancial corporations in other nonfinancial corporations are valued on the basis of the investor's proportion share of the associates capital and reserves. Conceptually, if any increase or decrease in value of equities held in other nonfinancial corporations are recorded by the investing nonfinancial corporation as a valuation adjustment, and not as a gain or loss in income, such valuation changes should be deducted only from total and not from narrow capital. All these adjustments to data should be made at the sector-level.

Intra-sector income and expense items should not affect net income. So intra-sectoral dividends payable and the parents' share of an associates' retained earnings (and similarly, arising from a reverse equity investment, an associates' share of a parents' retained earnings) should be deducted from other income (net) with counter-entries in dividends payable and retained earnings. Such adjustments ensure that net income, dividends payable and retained earnings for the entire sector are not overstated. Also, any gains and losses on equity holdings in other nonfinancial corporations and sales of fixed assets to other nonfinancial corporations included in other income (net) should be excluded. All these adjustments to data should be made at the sector-level.

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<sup>3</sup> A group in this context is a parent nonfinancial corporation, its nonfinancial corporation branches, and nonfinancial corporation subsidiaries.

Interest income and expense are presented gross, and, in concept, will sum to zero in net income, so no adjustment is required. But to compile the earnings before interest and tax memorandum series, data are required on interest receivable from other nonfinancial corporations. It is also encouraged that data on debt service receipts from other nonfinancial corporations be compiled so to distinguish intra-sectoral debt service payments from those to other sectors.